



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BENEVOLENT HOSPITALS IN METROPOLITAN BOSTON.*

BY WILLIAM H. MAHONEY.

DEVELOPMENT OF THE HOSPITAL SYSTEM.

The first hospital to care for the indigent sick of Boston was established in 1821. Previously free medical service had been furnished by two agencies, the Boston dispensary and the almshouse. The need for a hospital had been repeatedly pointed out, but not until 1821 did the Massachusetts General Hospital open its doors to patients. Its stated object was to "cure the insane and other sick." Furnishing treatment for all diseases, it covered the field so well that for over forty years no other institution for similar work was established.

Though specialization is notably a development of the present generation, the next two units added to the hospital system were special hospitals. A group of surgeons felt the need of adequate provision for the treatment of diseases of the eye, yet they were not sure that the demand was sufficient to warrant asking the public for financial support. So, without asking aid, word was circulated among the poor that those needing treatment of the eye might receive it gratuitously. At the end of fifteen months, 856 persons had been treated and, as knowledge of the work became more general, the number of applicants increased rapidly. This was the beginning of the Massachusetts Charitable Eye and Ear Infirmary in 1824, the first agency of its kind in America. Fourteen years earlier London had opened a similar institution.

The second special hospital was established more than thirty years later to treat incurable diseases. In 1833 the

*The data on which this article is based were gathered while the writer held a fellowship in the Research Department of the Boston School for Social Workers.

Geographically, the scope of the study includes the area bounded by the towns of Winthrop, Revere, Melrose, Medford, Winchester, Arlington, Belmont, Watertown, Newton, Hyde Park, Milton and Quincy. This circle of towns, together with the area enclosed by them, is accepted as constituting Metropolitan Boston, while the portion of the area which lies outside Boston proper is referred to as Suburban Boston. State and national institutions and institutions caring for defectives are omitted. City hospitals, hospitals and dispensaries incorporated for benevolent medical work, as given in the reports of the State Board of Charity, and hospitals and dispensaries listed in the 1907 Boston Directory of Charities, constitute the group which form the basis of the study.

Massachusetts General Hospital determined no longer to treat incurable or chronic cases. For such there remained only the almshouse. Largely by the effort of Miss Harriet Ryan, the Channing Home, for the treatment of incurable diseases, came into existence in 1857. The number of patients at one time was limited to fifteen, since the care of that number was "as much as one woman could do." As Miss Ryan was devoting her mornings to her work as a hairdresser in order to earn money for the institution, and in the late afternoon often went about with a basket to collect food for her patients, this assumption was probably correct.

The real growth of the hospital system in Boston dates from about 1860, as is shown in the following table:

TABLE I.
NUMBER OF GENERAL AND SPECIAL HOSPITALS IN METROPOLITAN BOSTON, BY
DECADES, 1860-1910.

Year.	Total Number of Hospitals.	Number of Hospitals in Boston.		Number of Hospitals in Subur- ban Boston.	
		General.	Special.	General	Special.
1860.....	3	1	2	-	-
1870.....	10	3	7	-	-
1880.....	17	4	12	-	1
1890.....	23	5	14	3	1
1900.....	35	7	20	6	2
1910.....	41	8	21	9	3

During the decade following 1860, seven hospitals were opened in Boston. Thus over forty years had elapsed after the opening of the Massachusetts General Hospital in 1821 before two additional general hospitals, the Boston City Hospital and Carney Hospital, opened their doors in 1864. These two are the last of the larger general hospitals which do not in some way limit their service to smaller groups in the community. The two other large hospitals which are so limited are the Massachusetts Homeopathic Hospital, opened in 1871, and the pauper hospital at Long Island, opened in 1887. The Homeopathic Hospital was founded specifically for treatment of adherents of the homeopathic school of medicine. To enter the Long Island Hospital one must declare oneself a

pauper. Since 1890, three general hospitals, all smaller than the preceding ones, have been opened in Boston.

The system which so early included specialized institutions has continued in the same direction, and by far the greater number of institutions added since 1860 are special hospitals. The next organization created for special work was the Massachusetts Infant Asylum in 1864. The infant death rate at the crowded almshouse was very high, at times approaching 100 per cent. The fact that "mothering" and proper care had been difficult at the almshouse is indicated by the quick reduction of the death rate which followed the system introduced by the Massachusetts Infant Asylum.

About one half of the special hospitals added during the next two decades were chiefly for women. Preceding 1870, the New England Hospital for Women and Children and St. Elizabeth's Hospital had been opened. After 1870, St. Mary's Infant Asylum and Lying-in Hospital, the Boston Lying-in Hospital, and the Free Hospital for Women were founded. New lines of work were also inaugurated by the establishment of an institution for nervous cases and a home for convalescents. At the same time, classes of work previously begun were augmented by a children's hospital, an institution for chronic cases and another for tuberculosis.

Between 1880 and 1890, one hospital for infants and another for incurables were the only institutions added. After 1890, the trend toward specialization set in more strongly than ever. In fact, the great increase in the total number of institutions during the decade from 1890 to 1900 is due in part to the establishment of hospitals in suburban towns but chiefly to the addition of special hospitals in Boston proper, where the majority of such institutions are located. Two institutions for women, two for incurables, one for children and one for tubercular patients, added during this period, all duplicated existing institutions.

Meantime, the so-called general hospitals were creating separate departments for new special work or further separating work already undertaken. Contagious, maternity, and children's departments early found favor in more than one general hospital. This division of functions within the

general hospitals reached its height between 1890 and 1900, i. e., at the time when the largest number of hospitals for special work were established. Ten departments were added to general hospitals at this time, or twice as many as during any previous decade.

Only six hospitals were added between 1900 and 1910, a much smaller number than during the previous decade. Moreover, three of these were general hospitals in Suburban Boston. It is evident that fewer hospitals were added during this decade in Boston than during any other, except one, since 1860.

The rapid development in the hospital system since 1860 has been marked not only by the increase in the number of hospitals but by an increase in hospital facilities as measured by the number of beds and by a more than corresponding growth in the number of patients. The developments are shown in the following table:

TABLE II.

NUMBER OF BEDS AND PATIENTS IN THE HOSPITALS OF METROPOLITAN BOSTON, BY DECADES, 1860-1910.*

Year.	In Metropolitan Boston.			In Boston.			In Suburban Boston.		
	Number of Beds in		Number of Patients.	Number of Beds in		Number of Patients.	Number of beds in		Number of Patients.
	General Hospitals.	Special Hospitals.		General Hospitals.	Special Hospitals.		General Hospitals.	Special Hospitals.	
1860.....	180	43	1409	180	43	1409	—	—	—
1870.....	484	121	4621	484	121	4621	—	—	—
1880.....	737	295	9834	737	280	9774	—	15	90
1890.....	1339	493	17243	1253	473	16505	86	20	738
1900.....	1895	1300	33538	1615	1250	30641	280	50	2897
1910.....	2400	2077	52319	1946	1882	45467	454	195	6852

The increase in the number of beds, a truer index of growth than the addition of new hospitals, has resulted from the enlargement of existing hospitals,† as well as from the addition of new units. The percentage of increase in hospital

* Convalescent departments of the general hospitals are here included with the general hospitals. This and the subsequent derived tables in this chapter may not be absolutely accurate, for old records are incomplete and in some cases no records have been found. The uncertainties occur, however, for the smaller institutions during their earlier years and such possible lapses do not invalidate the table for the purpose of showing the growth of the hospital system.

†For example, The Massachusetts General Hospital, which in 1826 had 43 beds, in 1847 had 150 beds, and in 1850 the Massachusetts Charitable Eye and Ear Infirmary moved into a new building.

beds in Metropolitan Boston by decades is as follows: from 1860 to 1870, 171 per cent.; 1870 to 1880, 70 per cent.; 1880 to 1890, 77 per cent.; 1890 to 1900, 74 per cent.; 1900 to 1910, 40 per cent. The number of beds was almost trebled between 1860 and 1870. The sudden growth occasioned largely by the opening of the Boston City Hospital and Carney Hospital was due to various reasons. The number of hospital beds had not kept pace with the steady growth in the population of Boston and the death rate in the city had been high.* The number of beds has grown at the rate of at least 70 per cent. during each decade up to 1900. As in the addition of new hospitals, the relative increase in the number of beds was also much less during the decade following 1900 than in any decade preceding that date.

That hospital facilities, measured by the number of beds, have grown much more rapidly than population, is shown in the following table:

TABLE III.

RATIO OF HOSPITAL BEDS TO GENERAL POPULATION IN METROPOLITAN BOSTON, BY DECADES, 1860-1910.

Year.	Number of Persons to Each Hospital Bed in		
	Metropolitan Boston.	Boston.	Suburban Boston.
1860.....	1220	797	—
1870.....	643	414	—
1880.....	537	356	12790
1890.....	401	259	2712
1900.....	307	195	1272
1910.....	266	175	805

Between 1860 and 1870 the number of hospital beds in Metropolitan Boston increased about twice as fast as population and has since continued to outrun population, though at a much lower rate. The rates of decrease in the number of persons to each hospital bed are as follows: 1860 to 1870, 47 per cent.; 1870 to 1880, 16 per cent.; 1880 to 1890, 25 per cent.; 1890 to 1900, 23 per cent.; 1900 to 1910, 13 per

*Reports of the Health Department of the City of Boston.

cent. This growth for the metropolitan district has been determined largely by the development in the city of Boston, where by 1890 the accommodations were relatively more ample than at the present time for the entire area. In the city proper, the growth has been consistent and shows a steadily increasing service.

In the suburbs, provisions for hospital accommodations have been less adequate at all stages. In fact, the ratio of beds to population reveals less ample accommodations in the suburban towns in 1910 than existed in Boston proper in 1860. The relative increase in hospital beds provided, however, has been very rapid. Since 1880 the number has increased fifteen times as fast as the population in the suburban towns, while in Boston it has increased but twice as fast. Since 1900 the growth has not been so rapid. While the increase in hospital beds in Boston has little more than kept pace with the population during the decade preceding 1910, in the suburbs it has been about one and one half times as great.

A recent writer states that the "normal" number of hospital beds in the United States per 100,000 population in 1910 was "about 228."* Considering Boston proper, it is found that the number of hospital beds per 100,000 population is far above "normal," *i. e.*, it is 570, and for Metropolitan Boston the corresponding number is 375.

The availability of hospital beds has been further increased by the shortening in the average length of stay of the patients. Combining the average stay of patients at the Massachusetts General Hospital, the Boston City Hospital, and the Massachusetts Homeopathic Hospital, the resulting average stay is, for 1880, 34 days; for 1890, 23 days; for 1900, 20 days; for 1910, 16 days. Eight out of nine hospitals had a shorter average stay per patient in 1910 than in 1905. The maximum decrease was 3.5 days. The one in which the stay increased, showed an increase of 0.8 of a day. The decrease for the nine hospitals in 1910 when compared with 1905 was 1.6 days. This general decrease may have been due in part to increasing pressure of larger numbers of patients for admission, to

*Dr. Charles P. Emerson in *Hospital Management*, Aikens, p. 28.

changes in ideas of medical treatment, to the acceptance of patients suffering from less serious diseases, many of them of shorter duration, and to the growth in facilities for convalescent care.

The extent to which the increased facilities have been used to accommodate more patients is shown in the following table:

TABLE IV.
RATIO OF HOSPITAL POPULATION TO GENERAL POPULATION IN METROPOLITAN BOSTON, BY DECADES, 1860-1910.

Year.	Number of Hospital Patients to Each 100,000 General Population in		
	Metropolitan Boston.	Boston.	Suburban Boston.
1860.....	517	792	—
1870.....	1186	1844	—
1880.....	1772	2685	47
1890.....	2342	3680	256
1900.....	3419	5462	689
1910.....	4386	6780	1312

From 1860 to 1910 the number of hospital patients in Metropolitan Boston has increased more than eight times faster than the general population. The ratio in 1910, 4,386 patients for every 100,000 population, is far above the average for the United States.*

As in regard to the number of beds, so the relative increase in the use of hospital facilities was most marked during the first decade under consideration, which shows an increase of over 130 per cent. The exact increase by decades is as follows: from 1860 to 1870, 131 per cent.; from 1870 to 1880, 49 per cent.; from 1880 to 1890, 32 per cent.; from 1890 to 1900, 45 per cent.; from 1900 to 1910, 28 per cent. Except for the increase between 1890 and 1900, due in part to the opening of many new hospitals, the percentage of increase over the fifty years shows an expected downward trend; but the figures indicate a consistent growth in the use of hospital facilities.

*In 1904 there was an average of 1,300 hospital patients per 100,000 population in the United States *Benevolent Institutions*, 1904. John Koren.

No hospitals were opened in the suburban cities until 1880, but subsequently, the proportion of the population using them increased faster in the suburbs than in Boston, although it is not yet one fifth as large as in Boston.* Such rapid growth is largely due to the previous scarcity of beds.

The relation of the growing hospital population to the number of persons reported as sick is difficult to measure. General morbidity statistics covering any period of time do not exist. The average number of contagious cases reported in Boston per 100,000 of population for the ten years ending 1910 was about 4 per cent. less than that for the ten years ending 1900.† Apparently the rate for these diseases is decreasing. The increased use of the hospitals can probably be attributed to congestion of population, an increasing proportion of which lives in apartments, and to the growing appreciation of good nursing and of adequate medical facilities, influencing more and more people, who formerly remained at home, to seek these institutions during illness.

PRESENT SIZE AND ADEQUACY OF THE HOSPITAL SYSTEM.

In 1910 the hospital system of Metropolitan Boston consisted of forty-one organizations. During that year these institutions maintained 4,477 beds and provided a total of 1,054,999 hospital days' care for 52,319 patients.‡ The importance of the public hospitals to the community is indicated by all three of these figures, but chiefly by the large number of patients receiving the benefits of the hospitals during the year, a number equal to about 4 per cent. of the population of Metropolitan Boston, or an average of one person in every 25.

To measure the relation between the number of patients

*Increase 1880 to 1890, 450 per cent.; 1890 to 1900, 170 per cent.; 1900 to 1910, 85 per cent. There has been a similar growth in the use of hospital facilities in London from 1900 to 1910 since the population increased 10 per cent. and the hospital population 27 per cent. Hospitals and Charities, 1902 and 1912. Burdett.

†Includes smallpox, diphtheria and croup, measles, scarlet fever, and typhoid fever. Reports of the Health Department of the City of Boston.

‡These figures do not include persons treated in the out-patient departments, or the work of the private hospitals. An unsuccessful attempt was made to gather a brief statement showing the extent of the work of the latter. This was to have been used for comparative purposes only, since such organizations are not benevolent, their average size is small and they care for a well-to-do class of patients.

and the number of persons in Metropolitan Boston who are sick, is difficult. The Massachusetts census for 1905 made a tabulation of the acute and chronic sick in the state at the time of the census.* From this a morbidity rate, "accurate for the population considered,"† has worked out for the state as follows: "For acute diseases 1.13 per 1,000 population, and for chronic diseases 7.19 per 1,000 population."‡ This gives 8.32 persons sick per 1,000 population.

Applying this morbidity rate to the population of Metropolitan Boston in 1910 would mean that there were always 9,924 persons sick within this area.§ The total daily average of persons receiving treatment in the benevolent hospitals in 1910 was 2,968, which indicates that approximately 30 per cent. of the sick obtain such care. Allowing for the two institutions for which the daily average number of patients was not obtainable, it is probable that not quite one sick person in every three in Metropolitan Boston seeks care at the public hospitals.¶

In 1910 the hospitals of Boston treated 45,467 persons, and those of Suburban Boston, 6,852 persons, indicating that during 1910 approximately one person in 15 in Boston, and one person in 76 in Suburban Boston made use of the hospital service.¶ The chief explanation of this striking difference between the Boston and Suburban Boston figures is that many sick from Suburban Boston, as well as from outside Metropolitan Boston, seek the care of Boston hospitals.

In Metropolitan Boston one hospital bed was maintained for every 266 inhabitants. A comparison of Boston accommodations with those of certain British cities is of interest, even

*Labor Bulletins, Massachusetts Bureau of Statistics, October and November. 1907.

†Frederick L. Hoffman in the *Spectator* for December 19 and 26, 1907.

‡The possible error in applying to Metropolitan Boston a rate based on the entire state is less than might be expected because between 18 and 19 per cent. of the chronic cases, and over 37 per cent. of the acute cases, were located in Suffolk County. Conditions determining the amount of sickness have varied so little since 1905 that this morbidity rate is probably reasonably applicable in 1910.

§To some this proportion may seem high. In the report of the Bureau of Statistics which contained this material, the following statements appear: "Of the total (4,170) 2,048 received treatment at home and 2,104 received hospital treatment. . . . There were 18 instances in which information on this point was not ascertained." Labor Bulletin, October, 1907. This applies only to those suffering with acute diseases,—unfortunately chronic patients are not so classified,—and would indicate for these cases that 50 per cent. of those acutely sick at that time sought hospital care.

¶The population of Metropolitan Boston in 1910, 1,192,800, was composed of 670,585 persons living in Boston and 522,215 living in Suburban Boston.

though the conditions which affect the health of the different communities vary considerably. The following list includes benevolent hospital beds for all purposes:*

Birmingham—one bed to each 990 persons.

Cardiff—one bed to each 766 persons.

Manchester—one bed to each 619 persons.

Newcastle-upon-Tyne—one bed to each 547 persons.

Bristol—one bed to each 528 persons.

Glasgow—one bed to each 490 persons.

London—one bed to each 470 persons.

Liverpool—one bed to each 458 persons.

Belfast—one bed to each 438 persons.

Brighton—one bed to each 401 persons.

Portsmouth—one bed to each 347 persons.

Edinburgh—one bed to each 270 persons.

Dublin—one bed to each 160 persons.

Only one city in the above list, Dublin,† shows more ample provisions for hospital patients than Metropolitan Boston which has one bed to each 266 persons. Edinburgh, a city noted for its hospital system, has accommodations practically equal to those in Boston, the other cities having much smaller per capita bed accommodations.

The total of 4,477 hospital beds under consideration is composed of 3,828 in Boston and 649 in Suburban Boston, which, compared with population, gives one bed to each 175 persons in Boston and one bed to each 805 persons in Suburban Boston. The area which the suburban beds serve is something over three times that of Boston proper. This sparseness of suburban beds explains in part the large number of beds per capita in Boston proper, which again partially accounts for the unequal distribution of patients previously indicated.

Two factors modify conclusions relative to the apparent adequacy of hospital facilities in Metropolitan Boston. First, the division and use of beds according to general and special work; and second, the location and accessibility of these beds in relation to centres of population. The importance of loca-

**Hospitals and Charities*, 1907. Burdett.

†No explanation is offered regarding this remarkable figure for Dublin except to suggest that it is so unusual as to warrant a suspicion of possible error. *Hospitals and Charities*, 1907, p. 70. Burdett.

tion can hardly be overestimated. From the viewpoint of the patients to be cared for a system of scattering, rather than of grouping institutions doing similar work, would seem to be desirable.

The accommodations maintained and the number of patients treated in the general hospitals of Metropolitan Boston during 1910 are first presented in the following table:

TABLE V.

ACCOMMODATIONS AND NUMBER OF PATIENTS TREATED IN THE GENERAL HOSPITALS OF METROPOLITAN BOSTON, BY INSTITUTIONS, 1910.

Hospitals.*	Number of Patients Treated.		Total Number of Beds.
	Total.	Daily Average.	
All hospitals.	34,356	1,718	2,311
Boston hospitals.	28,666	1,443	1,857
Suburban Boston hospitals.	5,690	275	454
<i>Boston Hospitals:</i>			
Number 1.	3,674	138	170
Number 2.	6,392	289	324
Number 3.	10,834	433	655
Number 4.	4,341	202	250
Number 5.	1,361	297	325
Number 6.	573	22	53†
Number 7.	1,051	43	50
Number 8.	440	19	30
<i>Suburban Boston Hospitals:</i>			
Number 9.	386	21	25
Number 10.	1,749	98	150
Number 11.	236	10	18
Number 12.	895	37	80
Number 13.	567	26	40
Number 14.	806	37	60
Number 15.	97	11	11
Number 16.	63	3	10
Number 17.	891	32	60

* Numbers are used to avoid revealing the identity of hospitals.

† During six months uses only 35 beds.

Approximately 83 per cent. of the 34,356 patients treated in the general hospitals of Metropolitan Boston were cared for by the institutions located in Boston proper, which contains 56 per cent. of the whole population; and 17 per cent. by the nine institutions of Suburban Boston. The fact that the older institutions in the city may attract certain patients from outside Metropolitan Boston by no means accounts for this condition. It is another indication that many residents who desire general hospital treatment came to Boston institutions in preference to those nearer home.

In 1910 the total number of beds in the general hospitals of Metropolitan Boston was 2,311, or one such bed for every 516 persons. New York, the only city with which comparison of such figures is possible, maintained in 1907 one bed for treating general diseases for each 392 of population.* The author of the study of hospital conditions in that city suggested the immediate addition of 500 beds in the general hospitals of New York, which would give one bed for each 375 persons.† The report pertinently calls attention to the importance of the distribution of the beds rather than the total number. Certainly in the matter of total beds for general work Metropolitan Boston is not as well supplied as New York, but Boston proper, with one general hospital bed for each 361 persons, is better supplied than New York would be with the suggested additions. Probably the number of special hospitals and the difference in the number of beds set aside for special work in the general hospitals reduce the value of such comparison.

In order to measure accurately the relation between the number of beds in general hospitals and the demand for service in such hospitals, it is necessary to take into account the length of time which the patients spend in the hospital. Not only does the length of this stay vary over a period of years as has been shown, but it varies constantly between hospitals doing similar work. Table VI takes into account the length of time each patient was at each hospital by using the total number of hospital-days' care given by each institution.

It will be seen that approximately 84 per cent. of the total number of days' care actually given was furnished by the hospitals located in the city of Boston, which is even a larger proportion of work, in favor of the city proper than indicated by the division of the beds. Comparing the ratio of actual work to possible work it is shown that the use of the Boston service exceeded that of Suburban Boston by 17 per cent.

**New Hospitals Needed in Greater New York*. Jacobs. In 1907 there were 10,926 beds in the general hospitals in Greater New York. The official estimate of the Department of Health of New York City gives the population of the city for that year as 4,285,435.

†*Ibid.*, p. 18.

TABLE VI.

RELATION BETWEEN THE ACTUAL USE AND THE POSSIBLE USE OF HOSPITAL ACCOMMODATIONS IN THE GENERAL HOSPITALS OF METROPOLITAN BOSTON, BY INSTITUTIONS, 1910.

Hospitals.*	Number of Hospital Days.		Per Cent. of Actual Use to Possible Use.
	Possible if the Beds Were Constantly Occupied.†	Actually Given.	
All hospitals.	840,221	631,566	75.2
Boston hospitals.	674,511	530,133	78.6
Suburban Boston hospitals.	165,710	101,433	61.2
<i>Boston Hospitals:</i>			
Number 1.	62,050	50,345	81.1
Number 2.	118,260	105,617	89.3
Number 3.	239,075	158,161	66.2
Number 4.	91,250	73,607	80.7
Number 5.	118,625	108,405	91.4
Number 6.	16,051	10,982	68.4
Number 7.	18,250	15,834	86.8
Number 8.	10,950	7,182	65.6
<i>Suburban Boston Hospitals:</i>			
Number 9.	9,125	7,760	85.0
Number 10.	54,750	35,856	65.5
Number 11.	6,570	3,543	53.9
Number 12.	29,200	13,761	47.1
Number 13.	14,600	9,376	64.2
Number 14.	21,900	14,498	66.2
Number 15.	4,015	3,880‡	96.6
Number 16.	3,650	1,260	34.5
Number 17.	21,900	11,499	52.5

* Numbers are used to avoid revealing the identity of hospitals.

† The figures given in the first column as the "number of hospital days possible if the beds were constantly occupied" are obtained by multiplying the average number of beds maintained during 1910 by the number of days in operation during that year (usually 365).

‡ Computed from the total number of patients and the average stay per patient.

Because of the constant changing of patients and the reservation of beds in groups for the care of special diseases, the most efficient service demands that a certain margin of beds should be constantly vacant. Estimates of the proper proportion of the whole to be so reserved range from 10 to 20 per cent. Mr. Jacob's study of hospital conditions in New York states that, "At least one tenth of the beds must be constantly in reserve and about another one tenth is very likely to be in reserve on account of poor location or for some other reason." Others place the desirable surplus at about 12 or 15 per cent.

The percentage of actual use to possible use for the beds in the general hospitals of Metropolitan Boston was 75.2 per cent. In other words, approximately one fourth of the beds in the general hospitals were idle all of 1910, or, stating it dif-

ferently, each of the beds in general hospitals was idle one fourth of the time during 1910. It will be seen that two hospitals have a usage of over 90 per cent. Both are hospitals connected with almshouses and for the treatment of declared paupers only. Leaving these out of consideration for the moment, the percentage of actual use to possible use in the hospitals of Metropolitan Boston drops to 72 per cent. and in Boston proper to 76 per cent. Exclusive of these two institutions there are but two hospitals with more than 85 per cent. of actual to possible use, while Boston proper has three hospitals with less than 70 per cent. of usage and Suburban Boston has but one that is over 70 per cent. In Boston proper the relation of use to possible use was over 3 per cent. higher than the average for the entire area. Assuming that 20 per cent., the highest estimate found, is the desirable margin of unused beds would leave 1.4 per cent. of the general hospital accommodations in Boston proper as unnecessary. This is a trifle over 25 beds. If one assumes 10 per cent., the lowest estimate found anywhere, to be the desirable margin of unused beds, then 11.4 per cent. or 212 beds, in the general hospitals in Boston proper are unnecessary. Probably the number of unnecessary general hospital beds in Boston is somewhere between 25 and 212. Applying the same measure to the beds in Suburban Boston would show even a greater relative number of beds idle. The figures for twelve general hospitals in the United States, including two located in Boston, show an average of about 72 per cent. of use to possible use in 1910.* This figure is low because several of the institutions are much below the average in the proportion of unused beds. For example, 45 per cent. of such beds in one hospital and 54 per cent. in another unquestionably indicate a surplus bed supply in those institutions. No general hospital in Boston proper shows nearly so low a percentage of use as the two just specified and yet the average for Metropolitan Boston is within 3 per cent. of the average for the institutions quoted. Figures for twenty-six general hospitals in London indicate 87 per cent. of use to possible use during 1910.†

**Hospitals and Charities*, 1912. Burdett.

†*Ibid.*

Compared with other cities, then, Boston proper shows a low relative use of its general hospital facilities, and this condition is true in spite of the fact that the city is caring for a large number of suburban patients. This is of interest in view of the new general hospitals about to be opened in Metropolitan Boston.

The units which compose the general hospital system in Boston show considerable variation, at least one half of them being below the maximum possibility of efficiency. Institutions numbers 2 and 7 show the highest usage, while the minimum is found under numbers 3 and 8. It will be observed that the hospital with the largest bed possibility in Suburban Boston has a usage of but 65 per cent. This is a result of a ruling of the trustees restricting admissions, so that about this proportion of beds will be in use. The figures for Suburban Boston suggest the opportunity for development in other, possibly special directions, if the effort to care for a greater proportion of their rightful general patients is unsuccessful. Not only is the average of all Suburban Boston hospitals lower than the average of those in the city proper but there is only one hospital in the district (except the pauper hospital previously mentioned) which shows as much as 70 per cent. of use to possible use. In the suburbs the circumstance that the institutions are scattered and not easily accessible from large parts of the district, although a modifying factor, cannot entirely justify such a large waste. The fact is that the sick in these localities, even where hospitals are provided, do not go to their own hospitals for treatment.

In many general hospitals, especially those of larger size, a definite part of the equipment is given over to the care of special cases.* Approximately twenty-five such special departments are maintained and these are scattered over 11 different kinds of work. The division of beds, *i. e.*, the proportion reserved for general medical and surgical cases and the proportion assigned to special cases, is of importance in considering the adequacy of the system. Classifying the two large contagious "departments" as special hospitals, which they really are,

*One general hospital located in Boston proper, and five located in Suburban Boston, confine themselves, at least nominally, to general work.

approximately 80 per cent. of the beds in the general hospitals are devoted to general work. Five hospitals maintain maternity departments and five children's departments, but only 5 per cent. of the total beds are so reserved. Convalescent work occupies about 4 per cent. of the beds and gynecological work about 3 per cent. The remaining special beds are scattered over such departments as contagious, orthopedic, eye and ear, etc. It will be of interest to consider the extent of such special accommodations in general hospitals in connection with the work of the special hospitals, which is shown in the following table:

TABLE VII.
ACCOMMODATIONS AND NUMBER OF PATIENTS TREATED IN THE SPECIAL HOSPITALS
OF METROPOLITAN BOSTON, BY INSTITUTIONS, 1910.

Hospitals.*	Number of Patients Treated.		Total Number of Beds.
	Total.	Daily Average.	
All hospitals†	17,963	1,250	2,166
<i>Infants and Children:</i>			
Number 18	1,673	65	100
Number 19	289	12	24
Number 20	217	21	24
Number 21	462	95	125
<i>Women:</i>			
Number 22	1,347	69	146
Number 23	214	18	30
Number 24	233	10	24
Number 25	989	70	160
Number 26	464	35	59
<i>Lying-in:</i>			
Number 27	260	†	145
Number 28	863	38	52
<i>Nervous Diseases:</i>			
Number 29	187	45	51
<i>Eye and Ear Diseases:</i>			
Number 30	3,556	150	210
<i>Contagious Diseases:</i>			
Number 31	3,025	264	340
Number 32	483	49	140
<i>Chronic and Incurable Diseases:</i>			
Number 33	195	42	43
Number 34	315	†	117
Number 35	72	22	23
Number 36	59	50	50
Number 37	59	18	19
Number 38	80	26§	40
Number 39	200§	†	30
<i>Convalescent:</i>			
Number 40	663	31	35
Number 41	284	16	26
Number 42	108	8	18
Number 43	902	61	80
Number 44	376	20	36
Number 45	383	15	19

* Numbers are used to avoid revealing the identity of hospitals.

† The total is of little significance since it represents a combination of institutions so dissimilar.

‡ Data not obtainable.

§ Estimate.

Because of the many different kinds of special care afforded, the classification of the special hospitals is difficult and they are, therefore, grouped according to the character of their work, rather than on the basis of their location. One hospital for women, one for incurable cases, and one independent convalescent home are located in Suburban Boston.

Overlapping of work occurs between institutions caring for infants, children, and women and those caring for infants, children, and confinement cases. Of the four institutions which care for infants and children, two were not in operation continuously throughout the year. Four of the institutions accommodating convalescents are only separate departments of hospitals doing a large and varied work. Although three of the last mentioned are located outside of Boston proper, they may well be considered Boston institutions since admission to their care is obtainable largely through the parent institution in Boston.

While the general hospitals cared for 34,356 persons, only 17,963 were cared for in the special hospitals. Two reasons suggest themselves for this: first, the special hospitals average considerably less in size, showing an average of 77 beds as compared with 136 in the general hospitals; second, the average length of stay in the special hospitals is much longer than in the general hospitals.

In the special hospitals the percentage of use to possible use was 67.2, which is lower than the corresponding figure for the general hospitals by 8 per cent. Considering the groups in order, the hospitals caring for infants and children have a percentage of use varying from 50 to 85 with an average of 69 for the group. This low figure may in part be due to the fact that two of the institutions are not open during the entire year, and at the beginning and end of their work they are probably not running at the full capacity. Such open seasons dovetail into each other, one being closed and one open during the summer. This may interfere with exact conclusions and yet the fact that the group as a whole had an unused margin of 30 per cent. of its bed capacity suggests little need of adding more beds. Five general hospitals maintained ninety-two beds for the same class of patients. In the only one for which

figures by departments were obtainable, the children's department was not crowded. The others have small departments.

TABLE VIII.
RELATION BETWEEN THE ACTUAL USE AND THE POSSIBLE USE OF HOSPITAL ACCOMMODATIONS IN THE SPECIAL HOSPITALS OF METROPOLITAN BOSTON, BY INSTITUTIONS, 1910.

Hospitals.*	Number of Hospital Days		Per cent. of Actual Use to Possible Use.
	Possible if the Beds Were Constantly Occupied.†	Actually Given.	
All Hospitals.	629,976	423,433	67.2
<i>Infants and Children:</i>			
Number 18.	36,500	23,920	65.5
Number 19.	6,552	3,324	50.7
Number 20.	8,760	7,490	85.5
Number 21.	9,875	7,519	76.1
<i>Women:</i>			
Number 22.	53,290	25,094	47.1
Number 23.	7,830	4,781	61.1
Number 24.	5,832	5,311	91.1
Number 25.	58,400	25,550	43.7
Number 26.	16,107	8,776	54.5
<i>Lying-in:</i>			
Number 27.		†	
Number 28.	18,980	13,834	72.9
<i>Nervous Diseases:</i>			
Number 29.	18,615	16,485	88.5
<i>Eye and Ear Diseases:</i>			
Number 30.	72,050	54,403	75.5
<i>Contagious Diseases:</i>			
Number 31.	124,100	96,425	77.7
Number 32.	51,100	17,978	35.2
<i>Chronic and Incurable Diseases:</i>			
Number 33.	15,695	15,275	97.3
Number 34.		‡	
Number 35.	8,395	7,848	93.5
Number 36.	18,250	18,250§	100.0
Number 37.	6,935	6,437	92.8
Number 38.	14,600	9,490§	65.0
Number 39.		‡	
<i>Convalescents:</i>			
Number 40.	12,775	11,331	88.7
Number 41.	9,490	5,966	62.9
Number 42.	6,570	2,738§	41.7
Number 43.	29,200	22,265§	76.3
Number 44.	13,140	7,389	56.2
Number 45.	6,935	5,554§	80.1

* Numbers are used to avoid revealing the identity of hospitals.

† The figures in the first column as the "number of hospital days possible if the beds were constantly occupied" are obtained by multiplying the average number of beds maintained during 1910 by the number of days in operation during that year (usually 365).

‡ Data not obtainable.

§ Computed.

Of the five institutions caring for women, two also accept children and have maternity departments. Table VIII shows an average of 60 per cent. of use to possible use for this group. The maximum use found in the group is 91.1 per cent. for

hospital number 26, while the beds in numbers 22 and 25 have been in use less than one half of the time. Although figures by departments are not at hand, the two general hospitals which maintain seventy-three beds for women show a comparatively low demand upon their beds as a whole, so that these two departments are probably not crowded, which would indicate that the demand in this direction is satisfied.

Unfortunately, one institution caring for maternity cases has not at hand figures showing the number of days care given its patients. The number of patients treated (260) seems incomprehensibly low when compared with the number of beds maintained (145). This is of general interest only in connection with the fact that the beds of the other institution in the group were in use less than three fourths of the time. The general hospitals maintained only thirty-one beds for maternity work. Evidently this group of institutions does not need immediate additions to its facilities.

Boston has but one institution primarily for the care of nervous diseases, in which the fifty-one beds contained a daily average of forty-five patients. This institution is being utilized very nearly to its maximum capacity since it has less than 12 per cent. margin of unused beds, and at least that amount of margin is necessary for the best service. The general hospitals play practically no part in the care of nervous cases. Not only is the supply in this field hard pressed by the present needs, but the demand will probably increase rather than decrease.

Boston has but one special hospital devoted to the treatment of eye and ear diseases. During the year 1910 this institution added fifty beds to its hospital equipment, bringing the number up to 210. This enlargement was evidently needed since upon one day 195 ward patients were under care. The average use for the year, however, was but 75 per cent. Probably this amount of leeway for this class of patients is not excessive.

Contagious accommodations cannot be considered adequate unless they are ample enough to care for all applicants during an ordinary epidemic. One of the two hospitals has been recently opened to treat contagious diseases of children. In

spite of its low percentage of usage for the year, 35 per cent., during an epidemic in 1910 it was filled far beyond its capacity. The annual report for that year says " . . . the building erected for 100 patients, mostly children, at one time held 170 patients, two-thirds of them adults." The larger hospital, showing almost 78 per cent. of usage, was crowded during the same epidemic. Its annual report for 1910 states " . . . it is of great importance to increase the accommodations for diphtheria and scarlet fever." In past years cots and voting booths have been used to accommodate the overflow of patients. The need for more ample accommodations for contagious cases, which shall be in no way restricted, is apparent.

In institutions caring for chronic and incurable cases the average stay per patient is of longer duration and, therefore, the necessary margin of unoccupied beds is less. For two hospitals the number of days care given was not obtainable. Although the figures quoted for hospital number 36 are as received, they probably should not be taken at their face value, but only as indicating a constant use, since when a vacancy occurs the next person on the long waiting list is instantly notified. The five for which figures are given show 90 per cent. of use of available beds. All say that the demand upon them is great. This field undoubtedly demands expansion in the immediate future.

In only one institution caring for convalescents is the percentage of actual use of beds at all indicative of crowding. But although the figures for this group as a whole do not indicate the need of immediate expansion, that conclusion cannot be assumed. Hospitals numbers 41 and 45 are independent organizations and not departments of a larger system, as are the others of the group. All except these two receive convalescing patients primarily from the other departments of their own organizations and the availability of their resources is, therefore, limited. One of these exceptions, located near the edge of Metropolitan Boston, limits its work to women and children; the other, located in Boston, limits its work to women. It is apparent then, that every hospital in this group limits the classes to whom its resources are available.

Considering the hospital system as a whole the need of expansion in different kinds of hospital work in Boston is relative. In three directions immediate expansion is undoubtedly required. The city as a matter of necessity should assure itself that adequate accommodations for all cases of contagious diseases are at hand. This is not true at the present time. Furthermore, the beds for chronic and incurable, and for nervous cases are in such constant use that many who need treatment cannot be accepted as patients. For convalescent cases the fact that all existing institutions limit the class of patients admitted is unfortunate. In other directions the need of additional facilities is less pressing. Certainly the present facilities of the general, the lying-in, and the hospitals for woman do not require immediate enlargement.

One phase of hospital work not included in any of the foregoing figures is the care of ambulatory patients. In the following brief resumé, the work of the benevolent dispensaries of Metropolitan Boston is combined with that of the out-patient departments of the hospitals previously studied. Twenty-nine benevolent dispensaries and out-patient departments were treating patients in Metropolitan Boston in 1910. Clinics for 19 different groups of patients are found in Boston proper, none of them, however, treating contagious cases. Thirteen institutions maintain clinics for general medical and surgical diseases. Clinics for diseases of women; of the ear, throat, and nose; eye; skin; and nerves are the most common special departments.

Almost 99 per cent. of the 191,989 persons treated during 1910, not including accident cases, were treated in Boston proper. Comparing this figure with the population shows that in Boston proper during 1910, 284 persons per 1,000 population used the Boston dispensary and out-patient service. Including the suburbs, however, the number falls to 161 per 1,000 population, which is doubtless a fairer figure.* No figures are at hand admitting a satisfactory comparison of Boston conditions with those of other cities.

Whether ambulatory patients in Boston are increasing or

*The ratios given assume that all patients are residents of Metropolitan Boston. Except for a small percentage in one or two institutions this is probably correct.

decreasing in proportion to population cannot be ascertained by tracing the growth of the system as a whole, because the necessary figures are lacking. However, the growth since 1890 of the ten institutions which in 1910 treated about 85 per cent. of the total dispensary patients is shown in the following table:

TABLE IX.
NUMBER AND PER CENT. OF INCREASE OF PERSONS TREATED IN TEN DISPENSARIES
AND OUT-PATIENT DEPARTMENTS IN BOSTON, BY INSTITUTIONS, 1890, 1900, 1910.

Names of Hospitals and Dispensaries.	Number of Persons Treated During			Per Cent. of Increase
	1890.	1900.	1910.	1890-1910
<i>All Dispensaries and Out-Patient Departments:..</i>	88,405	139,917	161,730	83.0
Boston City Hospital.....	12,983	27,328	40,032	208.3
Boston Dispensary.....	24,456	28,610	30,917	26.4
Carney Hospital.....	5,380	10,355	15,084	180.4
Children's Hospital.....	1,712	4,735	6,232	264.0
Free Hospital for Women and Children.....	512	937	983	92.0
Infant's Hospital.....	1,000	3,064	2,907	190.7
Mass. Charitable Eye and Ear Infirmary.....	15,289	26,247	28,906	89.1
Mass. General Hospital.....	22,545	31,043	22,302	1.1*
Mass. Homeopathic Hospital.....	0	83	12,036	
New Eng. Hospital for Women and Children..	3,268	4,819	2,331	28.7*

* Decrease.

This table does not take into account many organizations formed since 1890—for example, the Mt. Sinai Hospital, founded in 1902, which in 1910 treated 4,728 persons. Only those are included whose history is available and is continuous over the twenty years. If all of the newer dispensaries had been included the increase in attendance between 1890 and 1910 would probably have been at least 90 instead of 83.0 per cent. as indicated in the table. The number of persons treated in these dispensaries per 100,000 population in 1890 was 19,712 and in 1910, 24,118, an increase of over 22 per cent. Although this increase is considerable, a similar one has taken place in other cities—for example, in London, and also in New York, until the passage of the law regulating dispensaries.* Some

*Relative to New York a prominent doctor says, "For more than one half a century the medical charities of this city treated about 16 per cent. of the population as sick and needy poor and fully met the requirements of that class. Now these charities have so multiplied that they give gratuitous medical relief to upwards of 45 per cent. of the population." Dr. Stephen Smith, *Charities Review*, March, 1898. Among the findings of the committee of the British Medical Association in the "Mission of Hospitals," it is stated that in London in 1877 one person in four received free medical relief; in 1894, one in 2.5; in 1903, one in 2.2; in 1904, one in 2." This is an increase of 200 per cent. for the period. *Hospitals and Charities*, 1907, p. 65. Burdett.

doctors claim that much of this disproportionate increase in dispensary patients is due to a growing use of these agencies by persons well able to pay a private physician. More common claims are that since the increase in the cost of living has outstripped the increase in wages, a greater proportion of persons are not able to pay for medical treatment, and also that a larger proportion of the really needy are receiving such service.

The volume of work in the twenty-nine dispensaries and out-patient departments in 1910 is shown in the following table:

TABLE X.

NUMBER OF PATIENTS, NUMBER OF VISITS, AND AVERAGE NUMBER OF VISITS PER PATIENT IN DISPENSARIES AND OUT-PATIENT DEPARTMENTS IN METROPOLITAN BOSTON, BY INSTITUTIONS, 1910.

Hospitals and Dispensaries.*	Number of Patients.	Number of Visits.	Average Number of Visits per Patient.
All Dispensaries and Out-Patient Departments...	191,989	657,256	3.4
Boston Dispensaries and Out-Patient Departments...	189,758	650,049	3.4
Suburban Boston Out-Patient Departments....	2,231	7,207	3.2
<i>Boston:</i>			
Dispensaries—			
Number 1.....	30,917	102,282	3.3
Number 2.....	4,728	14,075	3.0
Number 3.....	813	4,594	5.7
Number 4.....	2,013	5,655	2.8
Number 5.....	239	†	†
Number 6.....	1,511	3,759	2.5
Number 7.....	2,656	10,703	4.0
Number 8.....	913	7,332	8.0
Number 9.....	2,288	5,957	2.6
Number 10.....	5,391	13,684	2.5
Number 11.....	1,419	1,855	1.3
Number 12.....	1,057	1,389	1.3
Number 13.....	200	534	2.7
Out-Patient Departments—			
Number 14.....	15,084	43,887	2.9
Number 15.....	22,302	124,584	5.6
Number 16.....	40,032	127,559	3.2
Number 17.....	12,036	39,640	3.2
Number 18.....	6,232	26,593	4.3
Number 19.....	2,907	14,969	5.1
Number 20.....	929	5,702	6.1
Number 21.....	2,331	13,486	5.8
Number 22.....	3,838	10,362	2.7
Number 23.....	28,906	64,109	2.2
Number 24.....	33	305	9.2
Number 25.....	983	7,034	7.2
<i>Suburban Boston:</i>			
Out-Patient Departments—			
Number 26.....	530	1,524	2.9
Number 27.....	1,457	4,726	3.2
Number 28.....	153	610	4.0
Number 29.....	91	347	3.8

* Numbers are used to avoid revealing the identity of hospitals.

† Not obtainable.

Table X shows that in 1910 one dispensary and five out-patient departments cared for over three fourths (79 per cent.) of the Boston patients and their influence in determining the total is, therefore, noticeable.

The frequency with which doctors persuade patients to return for treatment is also evident in the table. The average, 3.4 visits per person, since it does not include accidents, is not especially high, although it exceeds the corresponding figure for the city of London, in which the out-patient departments of 123 hospitals had an average of 2.7 visits per patient.* It does not, however, exceed the 1907 figure for ten large hospitals and dispensaries, largely devoted to general work, located in New York, Philadelphia, and Baltimore, which shows an average of 3.8 visits per patient.† Comparing separate institutions, the proportion of visits varies with different kinds of work. For example, number 7 does tubercular work only, and in many cases the dispensary visit probably represents the examination only, treatment being arranged for elsewhere. On the other hand number 23 treats women, and its reports for a number of years show that many visits per patient is the rule.‡

It has been shown that the number of persons using dispensaries is increasing much faster than population. Are the number of visits per patient also increasing? This cannot be answered for the group as a whole. Reports of the Boston Dispensary show 1.5 visits per patient in 1890, 2.5 visits in 1898, and 3.3 in 1910. The Fayette Street Dispensary shows 3.1 visits per patient in 1890, 3.9 in 1900, and 5.8 in 1910.

*Journal of the Royal Statistical Society, March, 1909. P. E. Braun.

†Based on the 1907 reports of the institutions, as follows:

	Number of Visits per Patient
Philadelphia Dispensary.....	2.5
Hospital of the University of Pennsylvania.....	5.9
Hospital of the Protestant Episcopal Church, Philadelphia.....	3.9
Women's Hospital of Philadelphia.....	4.0
New York Dispensary.....	3.0
St. Luke's Hospital of New York.....	4.4
Mt. Sinai Hospital of the City of New York.....	2.4
Society of the New York Hospital.....	4.5
Bellevue and Allied Hospitals, New York.....	2.5
Johns Hopkins Hospital, Baltimore.....	3.8

‡If figures by departments were at hand for a sufficient number of institutions they would be more significant.

The Boston City Hospital shows little variation. The Massachusetts General Hospital shows 2.5 visits per person in 1890, 3.5 in 1900, and 5.6 in 1910. Such increases for these larger institutions, denoting an attempt to have patients return for thorough, continued treatment, are very encouraging.

THE EXTENT OF CHARITABLE WORK IN THE HOSPITALS.

All patients cared for at the benevolent hospitals are recipients of charity to the extent that they receive medical care gratuitously and the endowment of the hospital furnishes funds for their care. Moreover the institution is exempt from taxes. Although patients occasionally pay for every expense of their maintenance, this does not cover the services of the doctors nor the grants of community. With the exception of six special hospitals and one general hospital connected with an almshouse, none of which make any charge, all of these benevolent agencies receive payments from some of their patients.* Hospital reports commonly group such payments with reference to a fixed charge, and not according to what their care costs the institution. The common groupings are "pay,†" "part-pay," and "free."

Deducting from the total the 7,102 patients who, although paying something, could not be classified as pay or part-pay, 68 per cent. of the remaining 45,000 persons were treated at less than full charge, and over 24,000 persons, 53 per cent. of the total, paid nothing. Different classes of institutions determine the proportion of patients treated free in the two groups of hospitals. Among the general hospitals, the city institutions, in which a large part of the patients are treated free, determine the percentage. The percentage for the special hospitals is largely determined by certain institutions, chiefly those caring for incurable cases, which make no charge to any patient.

*This section deals only with patients given bed treatment, i. e., it excludes out-patients.

†The amount which constitutes full pay varies widely in different hospitals, in part because of variation in the cost of different kinds of service, and in part because certain rates have become customary. "Part-pay" patients pay anywhere from trifling amounts to almost full pay.

TABLE XI.

NUMBER OF PATIENTS TREATED IN THE HOSPITALS OF METROPOLITAN BOSTON AND PER CENT. OF THE TOTAL CLASSIFIED AS PAY, PART-PAY, AND FREE, BY INSTITUTIONS, 1910.*

Hospitals.†	Number of Patients Treated.	Per Cent. of Patients Treated		
		Pay.	Part-Pay.	Free.
All Hospitals‡	48,718	32.0	14.9	53.1
General Hospitals	34,356	36.2	13.1	50.7
Special Hospitals	14,362	20.6	19.7	59.9
<i>General Hospitals:</i>				
Number 1	3,674	57.0	17.0	26.0
Number 2	6,392	36.9	5.4	57.7
Number 3	10,834	33.3§	0	66.7
Number 4	4,341	23.8	35.3	40.9
Number 5	1,361	0	0	100.0
Number 6	573	53.4	40.3	6.3
Number 7	1,051	13.5	12.9	73.6
Number 8	440	66.7	4.3	29.0
Number 9	386	47.6	7.8	44.6
Number 10	1,749	38.0	44.0	18.0
Number 11	236	65.7	11.9	22.4
Number 12	895	69.3	21.7	9.0
Number 13	567	49.0		51.0
Number 14	806	41.0		58.2
Number 15	97	20.6	0	79.4
Number 16	63	30.2	9.5	60.3
Number 17	891	50.4	45.1	4.5
<i>Special Hospitals:</i>				
Infants and Children—				
Number 18	1,678	26.7	5.2	68.1
Number 19	289	1.7	36.0	62.3
Number 20	217	0.4	44.9	54.7
Number 21	462	0	0	100.0
Women—				
Number 22	1,347	67.2		32.8
Number 23	214	48.6	24.3	27.1
Number 24	233	47.8	15.8	36.4
Number 25	989	47.0	38.0	15.0
Number 26	464	0	0	100.0
Lying-in—				
Number 27	260	25.0	25.0	50.0
Number 28	863	43.0	22.3	34.7
Nervous Diseases—				
Number 29	187	27.3	40.1	32.6
Eye and Ear—				
Number 30	3,556	19.0	20.5	60.5
Contagious—				
Number 32	483	6.2	74.8	19.0
Chronic and Incurable—				
Number 33	195	0	0	100.0
Number 34	315	45.2	2.9	51.9
Number 35	72	0	0	100.0
Number 36	59	10.2		89.8
Number 37	59	57.6		42.4
Number 38	80	0	0	100.0
Convalescent—				
Number 40	663	34.0		66.0
Number 41	284	0	0	100.0
Number 42	108	6.5	49.1	44.4
Number 43	902	0	15.2	84.8
Number 45	383	4.4	10.2	85.4

* Three hospitals are omitted because of difficulty in classifying their patients.

† Numbers are used to avoid revealing the identity of the hospitals.

‡ The eight hospitals which do not separate those who pay in full from those who pay in part are omitted from the total of the per cent. columns.

§ Estimate.

|| Does not separate those who pay in full from those who pay in part.

Eliminating the city institutions, the general hospitals treated on an average 39 per cent. of their cases free. The relative prominence of free cases is most marked in the group of institutions for convalescents, which treated 78 per cent. of their cases free of charge. The group of hospitals caring for chronic and incurable diseases has an average of over 75 per cent. of free patients, and that caring for infants and children 72 per cent. The average for the convalescent hospitals is high because, except for one independent hospital which does only free work, the group consists of departments of larger hospitals, from which patients are chiefly received, and probably preference is given to those whose home conditions are not helpful toward convalescence, and such are less apt to be able to pay. In addition to the 24,000 persons who paid nothing for treatment, over 6,500 paid only a part of the full charge, making approximately two thirds of the total who were treated at less than the full charge.

For the thirty-six hospitals from which information was obtained, it is shown that 33 per cent. of the patients treated, approximately one patient in three, paid the full charge. Except the one hospital connected with an almshouse, every general hospital had patients paying the full charge. In six special hospitals no patient paid full charges during the year, and the percentage of patients paying them in all the special hospitals is much less than in the general hospitals. Considering both free and pay cases, the special hospitals care for a greater percentage of their patients at less than full charge than the general hospitals.

The residences of the patients admitted to free treatment in sixteen hospitals, caring for approximately 65 per cent. of the cases treated free in Boston, were classified as shown in the following table:

Table XII is based upon over 8,000 cases, more than one half of whom (56 per cent.) were residents of Boston. Approximately 22 per cent. were residents of Suburban Boston. These proportions apply equally to the general and the special hospitals. General Hospital number 8 treats as free cases only residents of Boston because of restrictions in the terms of its organization. Hospitals numbers 2 and 7 furnish free care to

residents from beyond the Metropolitan district to an extent not equalled by the other general hospitals. This is true of one chiefly because its name gives the impression that it is supported by the state; while the other is a part of an organization whose activities extend beyond Metropolitan Boston. In over one half of the special hospitals, at least one fifth of the free cases come from Suburban Boston. Special Hospital number 39 has 43 per cent. of its free cases from beyond Suburban Boston.

TABLE XII.

NUMBER OF PATIENTS ADMITTED TO FREE TREATMENT IN SPECIFIED HOSPITALS OF BOSTON, CLASSIFIED ACCORDING TO RESIDENCE, BY INSTITUTIONS, 1907.

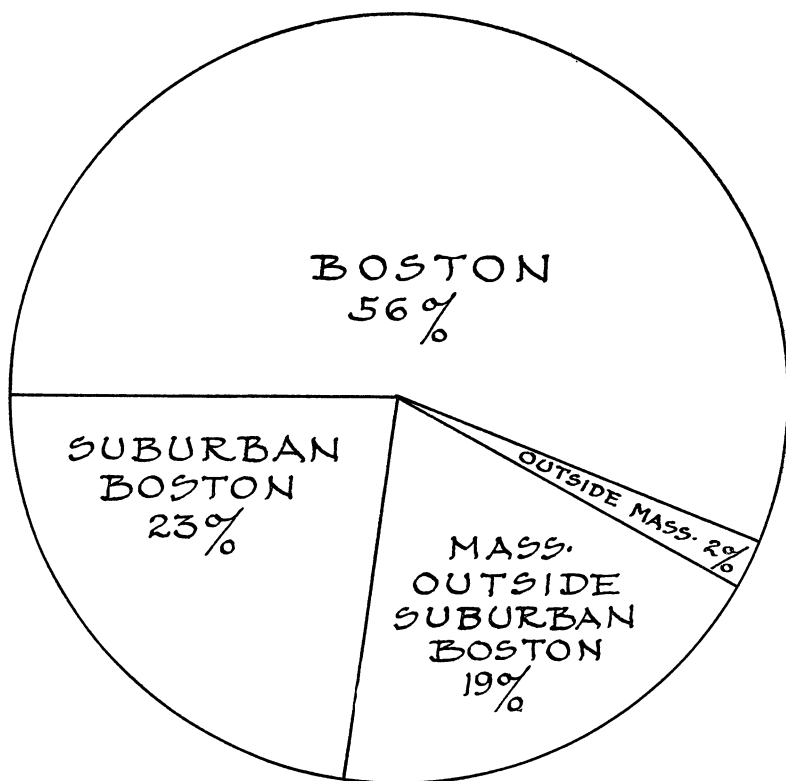
Hospitals.*	Total Number of Patients Admitted Free.	Per Cent. of Total Residing			
		In Boston.	In Suburban Boston	In Massachusetts Outside Suburban Boston.	Outside Massachusetts.
All Hospitals.....	8,253	56	23	19	2
General Hospitals.....	5,157	56	24	18	2
Special Hospitals.....	3,096	57	22	19	2
<i>General Hospitals:</i>					
Number 1.....	499	78	12	8	2
Number 2.....	2,743	43	30	25	2
Number 4.....	1,588	69	18	12	1
Number 6.....	89	53	26	13	8
Number 7.....	83	37	19	22	22
Number 8.....	155	100	0	0	0
<i>Special Hospitals:</i>					
Number 19.....	189	76	15	9	0
Number 20.....	100	67	16	12	5
Number 21.....	366	67	29	4	0
Number 22.....	344	79	16	4	1
Number 23.....	65	51	25	15	9
Number 24.....	48	73	25	2	0
Number 25.....	144	79	9	10	2
Number 29.....	65	37	20	43	0
Number 30.....	1,555	44	23	30	3
Number 33.....	240	65	21	12	2

* Numbers are used to avoid revealing the identity of hospitals.

Since many of the larger cities in the suburbs have general hospitals of their own, and the other cities have a definite plan of caring for their sick poor, it is evident that the 2,270 persons from outside Boston who received free treatment, chose to come to the general hospitals of Boston, and that the Boston hospitals wished them to come. The 1,331 non-resi-

dents admitted free to Boston special hospitals may have had greater reason for their course, since, possibly, no relief for their particular ailment is afforded at home. To the extent to which doctors and donors contribute to these hospitals this is of course justified. The extent to which the suburban cities are asking Boston hospitals to bear their rightful burden of sick who are unable to pay for treatment is shown in the following diagram:

DIAGRAM SHOWING THE PERCENTAGE OF CASES ADMITTED TO FREE TREATMENT IN HOSPITALS OF BOSTON PROPER, ACCORDING TO RESIDENCE.



Residents of Boston proper are not being treated as free cases in any of the suburban cities. None of the eight general hospitals in Suburban Boston from which information could be obtained treated any cases from outside the home city free of charge.* Whether any of the part-pay patients in the suburban hospitals were Boston residents, and thus recipients of charity, is not known. Although their place of residence was not classified, undoubtedly some of the part-pay patients of the Boston hospitals were suburban residents. Evidently, then, Suburban Boston is not to any extent repaying the city proper for the free care given to its citizens by caring for Boston residents without charge.

Combining the patients treated free in the public hospitals maintained by the city of Boston with the other free Boston patients, approximately a total of 15,442 residents of Boston received free treatment during 1907.† In other words, 2.5 per cent. of the population of Boston received free bed treatment in its public hospitals, which is equivalent to one person in every 40. Such figures indicate the need for care in dispensing so large a charity.

*Irrespective of convalescent departments, in one general and two special hospitals figures were not obtainable. The two special hospitals, however, care for free patients from over a wide area, including Boston.

†The 1907 report of the Massachusetts State Board of Charity states that the Boston City Hospital treated 8,969 free cases. The head statistician and head settlement clerk at the hospital estimated that 97 per cent. (8,699) of the free cases cared for had a city residence. The 1,185 patients at Long Island were all free city cases.

In the special hospitals, for which data were obtained, one half of the total, 57 per cent. of the free cases came from Boston. Assuming for the remainder that 50 per cent. of the free cases came from Boston, gives the total of 2,691 for all. This does not include Boston residents receiving free care in the two special hospitals of Suburban Boston.